DOCUMENT RESUME

ED 244 089 CE 038 916

TITLE Approach to Geographical Distribution of Vocational Training and Training Delivery Methods. Job Corps Vocational Education Offerings Review. Documentation Report No. 6.

INSTITUTION Manpower Administration (DOL), Washington, D.C. Job Corps.

PUB DATE Sep 83

NOTE 51p.; For related documents, see CE 038 911-917.

PUB TYPE Reports - Research/Technical (143)

EDRS PRICE MF01/PC03 Plus Postage.

DESCRIPTORS *Access to Education; Demand Occupations; *Economically Disadvantaged; Educational Needs; *Geographic Distribution; Geographic Location; *Job Training; National Programs; Needs Assessment; Postsecondary Education; School Demography; *School Location; Secondary Education; Site Analysis; *Vocational Education; Youth Programs

IDENTIFIERS *Job Corps

ABSTRACT

As part of a multiphased evaluation of vocational training provided by the Job Corps in fiscal year 1982, a study examined the approach used by the Job Corps toward geographic distribution of courses and training delivery. Because 14 occupations accounted for over one-half of the training analyzed in this study, the researchers recommended that they be established as designated core occupations and that programs that entail high capital training costs be conducted at regional training centers. A series of training considerations were developed to specify procedures for implementing programs to train students for the following occupations: word processing machine operators, entry bookkeepers, office machine repairers, production painters, emergency medical technicians, surgical technicians, X-ray technicians, computer operators, and computer service technicians. Concluding this guide are optional approaches for determining Job Corps training occupations. (The individual training considerations are included in this report.) (MN)

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JOB CORPS

VOCATIONAL EDUCATION OFFERINGS REVIEW

Documentation Report No. 6

Approach to Geographical Distribution of

Vocational Training and Training Delivery Methods

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September 1983

CE038916

Documentation Report No. 6

Approach to Geographical Distribution of

Vocational Training and Training Delivery Methods

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Documentation Report No. 6

Approach to Geographical Distribution of
Vocational Training and Training Delivery Methods

I. The Problem of Optimizing Vocational Training Offerings Geographically

It is tempting to imagine that operational decisions can be made centrally on the entire range of occupations for which training should be offered in each Job Corps Center. There are a number of operational features of Job Corps, not including the substantial analytical and vocational education staffing requirements and the data base problems, which seem to preclude such an administrative approach.

It is axiomatic that corpsmembers should be trained in occupations in which there is placement potential in the area labor market to which they will return or relocate to search for work. "Placement potential" is a difficult concept to measure, and it may vary from occupation to occupation or place to place. A useful statistical indicator is anticipated employment expansion in an occupation/labor market area especially when a corresponding supply of qualified workers is not apparent. Of course an existing shortage of workers for job vacancies that can be expected to continue is compelling evidence of placement potential.

National data on occupational employment expectations, even associated with equally detailed estimates of labor turnover and new worker supply, are of very limited use in differentiating training offerings by state, region, or local labor market area (see discussion in Documentation Report No. 2). Moreover, state and area occupational projections -- to say nothing of supply estimates -- are not uniformly and consistently

available. Very large expenditures of time, staff, and grants-to-states dollars would be needed to produce them. But even if such geographically detailed information could be amassed, the utility of centrally performed analysis and decision making is dubious. Labor market analysis is properly conducted if a study team has an encyclopedic knowledge of the dynamics of each particular labor market area (and/or state) as well as employment statistics expertise; ingredients likely not to be present in any central staff of reasonable size.

Another vexsome variable is that corpsmember characteristics have been observed to vary regionally and over time. Thus, occupational offerings at each Center should be commensurate with the threshold learning abilities of the corpsmembers assigned to that Center. Furthermore, those occupations should have placement potential in the labor market area in which the corpsmember will seek employment. Thus, labor market analysis, to be apposite, must be performed in those areas -- or at least states -- corresponding to the post-enrollment destinations of the corpsmember to be enrolled at a given Center.

Under past corpsmember recruitment and assignment policies, the Center to which corpsmembers were assigned bore little relation to where they would go to seek work. While the Job Corps has recently been moving toward "regional" enrollment in FY 82, corpsmember interregional Center assignments were sizable enough to present a problem. Furthermore, interstate assignments were quite frequent. This situation makes it difficult to attain the ideal of aligning corpsmember training to occupations in which they can be expected to secure work, no matter where or

by whom decisions on vocational training offerings are made. To attempt to make them centrally would be particularly difficult. The development of a corpsmember center assignment policy that relates each Center to a stipulated state or area labor market would help alleviate this problem.

II. Possible "Core" Occupations for Vocational Training at Job Corps Centers

If it seems impractical to try to impose central decision making on all occupational training offerings at all Centers, it is surely prudent for central policy makers to seek to assure that the decision making process results in selection of occupations for training that offer the best possible job finding prospects for corpsmembers. Examination of the post-enrollment employment experience of corpsmembers, by occupation of training, is a useful way to appraise both the suitability of the occupation as an objective of Job Corps training and the success of corpsmembers trained in securing jobs.

The review of FY 1982 job placement experience of corpsmembers, by the occupation of their Job Corps training, provides an instructive list of occupations which can be considered for core training occupations for Job Corps Centers.

The 22 occupations in which the largest number of corpsmembers were trained in FY 1982 -- each more than 300 -- (see Documentation Report No. 1) are by virtue of their size and wide geographical distribution, appropriate for consideration. The job placement experience must also be examined, however. Moreover, vocational training costs for each

occupation, are an important consideration. The combination of these two into "cost per job placement" produces a good indicator of performance and is heavily weighted in the rankings of Job Corps occupational training (see Documentation Report No. 5). Ultimately, all six of the variables ranked in this study contribute to "occupational performance." The overall rankings of the 22 largest occupations were used to identify the following fourteen as potential core occupations. They are, alphabetically:

- Auto Body Repairer
- Auto Mechanic Helper
- Auto Service Repairer
- Bookkeeper
- Clerk, General
- Clerk Typist
- Combination Welder
- Electrician
- Electronics Assembler
- Landscaper
- Nurse Assistant
- Plumber
- Retail Sales Clerk
- Welder, Spot

The performance ratings by occupation (in Documentation Report No. 5) were computed separately by training provider (Contract Center, National Contractor, CCC) as well as by occupation. Different providers of training in the same occupation frequently have different cost and placement experiences, resulting in different overall rankings. The foregoing list is based on generalizations of the individual training provider-occupation rankings, where there is more than one provider, into an overall occupational performance. In two of them, one training provider was ranked in the lower one-third overall (Clerk-Typist and Auto Mechanic Helper) because of relatively high costs and low job placement rates. However, they are included on the list of core occupations with the caveat that cost control measures be instituted and/or high cost providers be avoided.

The 14 occupations accounted for about one-half of the trainees analyzed in this study -- 7,235 or 64.7% of the females and 9,176 or 44.9% of the males. Subject to the foregoing caveat, their performance indicates that it would be reasonable to establish them as designated core occupations. Centers could choose vocational training options from these occupations. However, even training in these occupations should be subject to Center analysis of corpsmember needs and labor market placement opportunities.

III. Possible Regional Centers for Training in High Capital Cost New Occupations

During the early development of this study it appeared likely that some occupations (e.g., Computer Operator) would be suitable for training in Job Corps only if the expected high capital costs could be utilized for training a full complement of trainees -- more than might be attracted to the occupation in each of several separate Job Corps Centers. Following a thorough examination, two possible occupations are apparent.

Under certain circumstances, Computer Operator and Computer Service Technician could be considered for the regional center approach. These and the other "new" training occupations which could be added to Job Corps offerings are discussed in some detail in the following section.

IV. Possible Implementation of New Training Occupations

Documentation Report No. 3 contained information about the skill requirements of the occupations identified as suitable new Job Corps training offerings. The following material supplements Documentation Report

No. 3 by pointing out significant factors which affect how training programs may be implemented. For each occupation, Center analysis of the learning abilities of corpsmembers, the requirements of the training, and an analysis of labor market demand, should preceed undertaking any training program.

TRAINING CONSIDERATION: Word Processing Machine Operator

Methods of Delivery of Training

A. Purchase Word Processing Equipment

1. Equipment needed - word processing stations (terminal, dual disk drive), printers

2. Amountof Equipment Needed - one word processing station for each one-two students, one printer for each two stations

3. Approximate Cost of Equipment - (based on IBM Displaywriter) Word Processing Station - $2950.00, Printer - $935.00, Diskettes - $32.50 per box

4. Approximate Maintenance Cost - $444.00 per station per year

5. Some Possible Vendors - IBM, Wang, Lanier, Xerox

6. Advantages of Method of Delivery

   a. Corpsmembers are training on word processing equipment used in many offices

   b. Major modifications in upcoming years will most likely be made in software rather than hardware. Therefore, the equipment can be easily updated.

   c. Equipment can be used for the center's word processing needs as well as for instruction

7. Disadvantages of Method of Delivery

   a. Equipment can only be used for word processing

   b. Skills learned may tend to be brand-specific

   c. High initial cost

B. Lease Word Processing Equipment

1. Equipment Needed - Word Processing Stations, Printers

2. Amount of Equipment Needed - one station for each one-two students

3. Approximate Cost of Equipment (based upon lease prices for Wang equipment) Word Processing Stations - $301.00 each per month, Disks - $65.00 per box, Ribbons -

$36.00 per box, Printwheels - $25.00 each, Workbooks - $50.00 each

4. Approximate Maintenance Cost - $900.00 per year per station

5. Some Possible Vendors - IBM, Wang

6. Advantages of Method of Delivery

   a. Low initial cost

   b. Corpsmembers are training on word processing equipment used in many offices

   c. Corpsmembers are training on most modern equipment

7. Disadvantages of Method of Delivery

   a. Leasing costs will continue throughout the life of the program or until equipment is purchased

   b. Equipment can only be used for word processing

   c. Skills learned may tend to be brand specific

C. Purchase Micro-Computer

1. Equipment Needed - Micro-computer stations 128K memory (keyboard, terminal, dual disk drive), printers

2. Amount of Equipment Needed - one micro-computer for each one-two students, one dot-matrix printer for each two micro-computers, one letter quality printer for each classroom

3. Approximate Cost of Equipment (based on IBM-PC) Micro-computer - $2800.00, Dot-Matrix Printer - $650.00, Letter-Quality Printers - $2350.00, Instruction Disks Word Processing - $75.00, Use of Computer $100.00, Word Processing Instruction Packet - $500.00, Disks - $65.00 per box, Ribbon - $36.00 per box, Printwheels - $25.00 each

4. Approximate Maintenance Cost

   Carry-in - $240.00 per year per station
   On-site - $36.00 per year per station

5. Some Possible Vendors and Models - IBM-PC, Radio Shack TRS-80 (Model 12), TRS-80 (Model 4), Apple II-E

6. Advantages of Method of Delivery

   a. Equipment can be used for multiple instruction (word processing, data entry, computer literacy, etc.)

   b. Usage of equipment listed above closely approximates that of stand-alone word processing equipment

   c. Equipment can be used for center administrative work as well as for instruction

7. Disadvantages of Method of Delivery

   a. Initial cost is higher

D. Contract Training to Outside Institution

1. Equipment needed - none

2. Approximate Cost of Training - $4000.00 for six months of full day training (including typing instruction)

3. Some Possible Trainers - private business-secretarial schools, community colleges

4. Advantages of Method of Delivery

   a. Low initial cost with small number of students

   b. Training program is already set up and in place

   c. Training can be given even if only a few corps-members want it

5. Disadvantages of Method of Delivery

   a. High cost per student (particularly if many corps-members are trained)

   b. Center receives no equipment for its monetary investment

Recommendations

Word processing is a natural extension to a typing course. Since more and more offices are installing word processing equip-

ment, it is recommended that corpsmembers who possess interest and aptitude for this occupation be trained for it.

The method of delivering training should reflect the needs of the individual Job Corps center. Those centers with few Corpsmembers suited for word processing should contract the training to an outside agency. Centers planning a comprehensive data processing curriculum should set up a micro-computer laboratory. Other centers might supplement their typing classroom with a small number of word processors or micro-computers.

TRAINING CONSIDERATION: Data Entry Operator

Method of Delivery of Training

A. Utilize Existing Keypunch Equipment

1. Equipment Needed - keypunch machines (preferably programmable ones)

2. Amount of Equipment Needed - one keypunch machine per student

3. Cost of Equipment - none for centers already equipped with keypunch machines

4. Materials Needed - training guides and instructional materials which emphasize overall data entry skills not just keypunching

5. Advantages of Method of Delivery

   a. No equipment expenditure

   b. Corpsmembers will be training on actual data entry equipment

   c. Basic data entry procedure learned will be the same one used on other types of equipment

6. Disadvantages of Method of Delivery

   a. Care must be taken to teach universal data entry skills

   b. Corpsmembers must be shown how skills transfer to other data entry equipment

B. Purchase of Micro-computers

1. Equipment Needed - micro-computer stations (terminal, alpha-numeric keyboard, dual disk drive), printer

2. Amount of Equipment Needed - one micro-computer station for each student, one-two printers per classroom

3. Approximate Cost of Equipment - (based on Radio Shack TRS-80 Model 4) Micro-Computer Station - $1640, Switch Box - $120, Dot-Matrix Printer - $400-$2000

4. Approximate Maintenance Cost

   Carry-in - $499 per station per year

On-site - $399 per station per year
Maintenance of printers is extra

5. Some Possible Vendors and Models

Radio Shack TRS-80 (Model 4 or Model 12), IBM-PC, Apple II-E

6. Advantages of Method of Delivery

a. Corpsmembers will gain computer literacy as well as data entry skills

b. A comprehensive micro-computer laboratory will be further utilized

c. If micro-computers are purchased for other uses, no additional equipment will be needed

7. Disadvantages of Method of Delivery

a. Training will not be conducted on actual equipment (at some point in training, corpsmembers should work on a keypunch machine or other data entry equipment)

b. Equipment is expensive if micro-computers are not used for other training purposes

C. Contract Training to Outside Institution

1. Equipment Needed - none

2. Approximate Cost of Training - $4000.00 for six months of full-day training (includes typing instruction)

3. Some Possible Trainers - private business-secretarial schools, community colleges

4. Advantages of Method of Delivery

a. No equipment investment is required

b. Training can be given even if only a few corps-members want it

5. Disadvantages of Method of Delivery

a. High per student cost (particularly if many corps-members are trained)

b. Center receives no equipment for its monetary investment

Recommendations

Although data entry is rapidly replacing keypunching, the difference between the two vocations is largely one of equipment rather than skills. Data entry requires expertise in setting data fields, keyboarding, and verifying previously entered work - the same skills needed in keypunching.

Centers having old keypunching equipment do not need to invest in more sophisticated machinery. The only changes needed are to use teaching materials which emphasize universal data entry skills and to expose corpsmembers to examples of other equipment, either through field trips or demonstrations.

If a micro-computer laboratory has been established in a center, data entry can be taught on the computers. Care should be taken to ensure that each corpsmember has adequate access to the computer and that they are exposed to other types of data entry equipment (including keypunches).

Because of the expense of contracted data entry training, it is not recommended unless only a few corpsmembers desire instruction in the vocation.

TRAINING CONSIDERATION: Expand Bookkeeping Program to include Billing Machine Operator, Proof Machine Operator, and Payroll Clerk

Recommendations

It is recommended that the current curriculum in hand bookkeeping be expanded to Billing Machine Operator, Proof Machine Operator, Payroll Clerk, and Payroll Clerk, data processing. In small establishments these vocations may be part of the bookkeeper's job. However, in large offices they are often separate jobs requiring less expertise than that needed for bookkeeping.

Centers offering the expanded bookkeeper curriculum will need to obtain additional instructional materials and equipment in order to provide training in the new vocations. Corpsmembers should gain experience using billing machines, magnetic ink character readers, computer terminals, and other data entry devices.

In addition, corpsmembers should be given every opportunity to obtain actual job experience in banks, offices, and other establishments which employ bookkeeping machine operators, proof machine operators, and payroll clerks.

TRAINING CONSIDERATION: Office Machine Repair

Recommendations

Equipment used in offices has changed considerably in recent years. In addition to typewriters, more and more offices now include electronic typewriters, memory typewriters, and word processing equipment. Electronic calculators have almost completely replaced adding machines and dictating equipment has become smaller and more complex.

Persons who can repair this equipment have good employment potential. Major manufacturers, such as IBM, pay top wages. However, they prefer their entry level employees to have completed a two-year electronics program which includes coursework in blueprint reading, shop math, and electro-mechanics. Such courses are available in community colleges, vocational schools, technical institutes and through the military.

An additional source of employment is found in independent repair shops. Owners of these shops may employ individuals with less formal training but who have the skills necessary to repair the types of equipment serviced by the shop.

Instructional programs designed to teach only servicing of typewriters and other non-electronic office equipment are no longer adequate preparation for the vocation of office machine repair.

A program to train corpsmembers for repair on state-of-the-art as well as conventional office machines should include at least the following components:

A. Repair Shop Operation - processing work orders, requisitioning parts and supplies, calculating repair costs, updating parts and service manuals

B. Maintaining and Repairing Typewriters

C. Maintaining and Repairing Photocopy Equipment

D. Basic Electronics - safety, mathematics, direct current, alternating current, tools and devices, circuit elements, semiconductor principles, power supplies, waveform generators, oscilloscope fundamentals, number systems, logic symbology, computer concepts.

E. Microprocessors - logic fundamentals, microprocessor systems and fundamentals, machine language programming, memory components, troubleshooting, repairing.

F. Hands on experience repairing office equipment including electric typewriters, photocopy machines, calculators, dictating equipment, word processing equipment.

Such programs would involve one year of half-day training and could either be taught at a Job Corps center or be contracted to an outside agency.

Before starting an office machine repair program at a Job Corps center, a careful analysis should be made of the employment opportunities for this vocation. Local employers should be surveyed to determine the placement potential for corpsmembers, the equipment that is typically serviced in the area, and the competencies required to repair that equipment. This information should then be utilized to design a program that will best prepare corpsmembers to obtain jobs as office machine repairers in the area.

Three training options exist for this occupation. If the number of corpsmembers who qualify for the training and the long-term employment potential for those individuals is high enough to justify the installation of a program, office machine repair

could be taught on-site at a center. Job Corps centers that already teach electronics could utilize part of that curriculum as a base for the office machine repair course. However, because Corpsmembers need hands on experience in repairing office machines, including electronic typewriters and word processing machines, capital costs for this program will be high. Prior to setting up such a training program on-center, placement possibilities should be assessed and employer hiring requirements should be determined. If few corpsmembers show interest and aptitude for office machine repair or if few jobs are available for completers, the program should be contracted to a public or private institution which provides state-of-the-art training in office machine repair. Two Job Corps centers currently provide off-center training to small numbers of corpsmembers through adult education centers funded by state departments of education. Students have been placed in small repair shops after the 8 month training course. A final option is to incorporate state-of-the-art office machine repair as part of a computer service technician program. Both courses require a foundation of basic electronics and include instruction in micro-processor repair. A combined course would include a core curriculum of basic electronic and microprocessor concepts with branches designed to prepare corpsmembers for either office machine repair or computer service technician.

TRAINING CONSIDERATION: Production Painters

Recommendation

Job Corps centers interested in this occupation will need to survey the labor market carefully to determine the need. Centers which are located near defense contractors who are manufacturing missiles or aircraft would have better opportunities for work experience placements and actual job placements than centers in areas which have depended on automobile production for employment opportunities, since robots now perform production painting tasks in autombile factories. Local industries should be surveyed to determine the demand for production painters prior to establishing a program. Centers which already have a painter program could extend their program to include production painter. Production painters who know how to clean and maintain the painting equipment will be more valuable and have a better chance of getting hired.

TRAINING CONSIDERATION: Emergency Medical Technicians

Recommendation

All 50 states offer training in the basic EMT course developed by the Department of Transportation, through fire and police departments. In addition, there are numerous one and two year curriculums offered by community colleges, in addition to the basic EMT training course which ranges from 80 to 150 hours and takes from three to six months to complete. One and two year training programs offered through community colleges require courses in Anatomy, Physiology, English and the Social Sciences. The two year course prepares individuals for EMT paramedic positions; students take courses such as pharmacology and health management. Both programs require hands-on experience which is usually gained through volunteer work with fire departments or rescue services. The American Medical Association has begun accrediting these programs. Students must pass state board exams to be certified as EMT-Ambulance and EMT-Paramedic. Requirements vary from state to state. Because requirements vary, so many institutions offer this type of training and students must have a specified number of hours of work experience before they are hired (paramedics require six months of experience), it is recommended that Job Corps procure this type of training by contracting slots to other institutions. A list of schools offering EMT training is attached as Exhibit 1.

Exhibit 1
Public and Private Institutions Offering
Emergency Medical Training Programs

Alabama
Bessemer St. Tech. C
Brewer St. JC
Chattahoochee Valley St. CC
CC of the Air Force
Gadsden St. JC
Livingston U
Lurleen B. Wallace St. JC
Muscle Shoals St. Tech. C
Reg. Tech. Inst., U of Ala.
S.D. Bishop St. JC
Trenholm St. Tech. C
U of Ala., Birmingham
Wallace St. CC

Arizona
Ariz. Western C
Central Ariz. C, Aravaipa
Navajo CC
Northland Pioneer C
Phoenix C
Pima CC Dist.
Yavapai C

Arkansas
Cotton Boll Vo-Tech. Sch.
East Ark. CC
Gateway Vo-Tech. Sch.
Pines Vo-Tech. Sch.
Westark CC

California
American C of Paramedical Arts & Sciences
Cerro Coso CC
Chabot C
Citrus C
C of the Sequoias
Columbia C
Cosumnes River C
Crafton Hills C
Cuesta CC
East Los Angeles C
El Camino C
Gavilan C
Glendale CC
Grossmont CC
Humboldt SU
Lake Tahoe CC
Lassen CC
Loma Linda U
Long Beach City C
Los Angeles Mission C
Los Angeles Pierce C
Los Medanos C
Med-Help Training, Walnut Creek
Modesto JC
Mt. San Antonio C
Mt. San Jacinto C
Napa C
Orange Coast C
Palo Verde C
Pasadena City C
Riverside City C
Saddleback C
San Diego Miramar C
San Joaquin Delta CC
San Jose City C
Santa Ana C
Santa Monica C
Santa Rosa JC
Sierra C
Skyline C
Southland C, L.A.
Southern Cal. C of Medical & Dental Careers, Anaheim
Southwestern C
Yuba C
Western College, Van Nuys

Colorado
Aims CC
Arapahoe CC
Colo. Mountain C, East
Northeastern JC
Otero JC
San Juan Basin AVTS

Colorado (cont.)
San Luis Valley Area Voc. Sch.
Trinidad St. JC

Florida
Chipola JC
Fla. JC at Jacksonville
Fla. Keys CC
Hillsborough CC
Lake Co. Area Vo-Tech. Ctr.
Miami-Dade CC
Okaloosa-Walton JC
Palm Beach JC
Pensacola JC
Polk CC
St. Petersburg JC
Santa Fe CC
Sarasota Co. Vo-Tech. Ctr.
South Tech. Ed. Ctr.
Valencia CC

Georgia
Athens AVTS
Augusta Area Tech. Sch.
DeKalb CC
Marietta-Cobb AVTS
Thomas Area Tech. Sch.

Idaho
Eastern Idaho Vo-Tech. Sch.
North Idaho C

Illinois
Black Hawk C
Ill. Med. Trng. Ctr., Chicago
Kankakee CC
Kishwaukee C
Moraine Valley CC
Truman C

Indiana
Ind. Vo-Tech. C, Indianapolis
Ind. Vo-Tech. C, Lafayette
Ind. Vo-Tech. C, North Central
Ind. Vo-Tech. C, South Central
Lockyear C
U of Evansville
Vincennes U

Kansas
Barton Co. CC
Cowley Co. CC
Johnson Co. CC
Seward Co. CC

Kentucky
Eastern Ky. U
Henderson CC
Owensboro Vo-Tech. Sch.

Louisiana
Folkes Vo-Tech. Sch.

Maine
Eastern Me. Vo-Tech. Inst.
Southern Me. Vo-Tech. Inst.

Massachusetts
Cape Cod CC

Michigan
Bay de Noc CC
Charles S. Mott CC
Delta C
Jackson CC
Kalamazoo Valley CC
Lake Superior SC
Macomb Co. CC
Madonna C
Mid Mich. CC
Monroe Co. CC
Montcalm CC
North Central Mich. C
Oakland CC
St. Clair Co. CC
Washtenaw CC
Wayne Co. CC

Minnesota
Hibbing AVTI
Moorhead AVTI
916 AVTI
N. Hennepin CC

ississippi
Miss. Gulf Coast JC, Jefferson Davis
Utica JC

Missouri
Central Methodist C
East Central JC

Missouri (cont.)
Mineral Area C
Mo. Southern SC
Moberly JC
Nichols Career Ctr.
Trenton JC

Montana
Billings Vo-Tech. Ctr.

Nebraska
Central Tech. CC
McCook CC
Mid-Plains CC

Nevada
Clark Co. CC
Truckee Meadows CC

New Hampshire
NH Tech. Inst., Concord

New Jersey
Essex Co. C
Hudson Co. AVTS
D. Aristoni's School of Paramedical Professions

New Mexico
C of Santa Fe
Dona Ana Occ. Branch, NMSU

New York
Brooklyn C, CUNY
Erie CC
Jamestown CC
Mohawk Valley CC
Niagara Co. CC
SUNY C, Plattsburgh

North Carolina
Anson Tech. Inst.
Asheville-Buncombe Tech. Inst.
Catawba Valley Tech. Inst.
Central Piedmont CC
Cleveland Tech. C
Craven CC
Fayetteville Tech. Inst.
Forsyth Tech. Inst.
Guilford Tech. Inst.
Halifax CC
Martin CC
Roanoke-Chowan Tech. Inst.
Robeson Tech. C
Rowan Tech. Inst.
Sampson Tech. Inst.
Southwestern Tech. Inst.
Tech. C of Alamance
Western Piedmont CC

Ohio
Central Ohio Tech. C
Clark Tech. C
Columbus Tech. Inst.
Cuyahoga CC, Western Campas
Edison St. CC
Hocking Tech. C
Lakeland CC
Lima Tech. C
Muskingum Area Tech. C
Youngstown SU

Oklahoma
American College of Health and Business Okla. City
El Reno JC
Seminole JC
South Okla. City JC

Oregon
Central Oregon CC
Chemeketa CC
Clatsop CC
Mt. Hood CC
Umpqua CC

Pennsylvania
Greater Johnstown AVTS
Montgomery Co. CC

Puerto Rico
C of Health Related Professions

South Carolina
Aiken Tech. C
Greenville Tech. C
Sumter Area Tech. C
Trident Tech. C

South Dakota
Freeman JC

Tennessee
Shelby St. CC
St. AVTS, Shelbyville
St. Tech. Inst., Knoxville

Texas
Austin CC
Brazosport C
Cooke Co. C
Del Mar C
Odessa C
San Jacinto C, Central
Tarrant Co. JC

Utah
C of Eastern Utah
Weber SC

Virginia
Lord Fairfax CC
Northern Va. CC
Southwest Va. CC

Washington
Central Wash. U
Centralia C
Everett CC
Grays Harbor C
Olympic C
Skagit Valley C
Spokane CC
Tacoma CC

West Virginia
Alderson-Broaddus C
Marshall U
Parkersburg CC
Shepherd C
WV Northern CC

Wisconsin
Blackhawk Tech. Inst.
District One Tech. Inst.
Gateway Tech. Inst.,
Kenosha
Mid-State Tech. Inst.
Milwaukee Area Tech. C
Nicolet C & Tech. Inst.
Northeast Wisc. Tech. Inst.
Southwest Wisc. Vo-Tech.
Inst.
Waukesha Co. Tech. Inst.
Western Wisc. Tech. Inst.

TRAINING CONSIDERATION: Surgical Technicians

Recommendation

Surgical Technician programs range in length from nine months to a year in vocational schools, and up to two years in community colleges where students must take required courses in several disciplines. In addition, extensive clinical experience is required; students gain the experience in hospital operating rooms. Students must pass an examination which provides national certification. Since high school graduation or the equivalent is required for entry into this type of program; it requires clinical instruction; and there are approximately 90 programs accredited by the American Medical Association's Committee on Allied Health Education and Accredition, it is recommended that Job Corps should procure such training by contracting out slots to the accredited schools. A list of some of these schools appears in Exhibit 2.

Exhibit 2
Public and Private Institutions Offering
Surgical Technician Training Programs

Alabama
CC of the Air Force
Reg. Tech. Inst., U of Ala.
Trenholm St. Tech. C

Arizona
Ariz. C of Medical & Dental Careers
Tucson

Arkansas
Westark CC

California
American C of Paramedical Arts & Sciences
Cal. C of Medical Affiliates
C of San Mateo
Golden West C
Los Angeles Trade-Tech. C
MPD Schs.
Paramedical and Tech. C, Long Beach and Riverside
San Joaquin Valley C, Visalice
Simi Valley Ad. Sch.
Southland C, L.A.

Connecticut
Manchester CC

Florida
Lake Co. Area Vo-Tech. Ctr.
Miami-Dade CC
Polk Vo-Tech. Ctr.
Sarasota Co. Vo-Tech. Ctr.
St. Petersburg Vo-Tech. Inst.

Georgia
Athens AVTS
DeKalb CC
Valdosta AVTS
Waycross-Ware Co. AVTS

Idaho
Boise SU

Illinois
Belleville Area C
Kaskaskia C
Parkland C
Triton C
Wm. Rainey Harper C

Indiana
Ind. Vo-Tech. C, Indianapolis
Ind. Vo-Tech. C, Lafayette
Ind. Vo-Tech. C, South Central

Iowa
Des Moines Area CC
Kirkwood CC
Scott CC

Kentucky
Bowling Green St. Vo-Tech. Sch.
Madisonville St. Vo-Tech. Sch.

Louisiana
Northeast La. U

Maine
Kennebec Valley Vo-Tech Inst.

Michigan
Delta C
Highland Park CC
Lansing CC

Minnesota
Rochester AVTI
St. Cloud AVTI

Mississippi
Itawamba JC
Miss. Gulf Coast JC, Jefferson Davis

Missouri
Franklin Tech. Sch.
Kan. City Pub. Schs.

Montana
Missoula Vo-Tech. Ctr.

Nebraska
Metropolitan Tech. CC
Southeast CC
Southeast CC, Lincoln

New Jersey
Bergen CC

New York
Nassau CC
Niagara Co. CC
Trocaire C

North Carolina
Asheville-Buncombe Tech. Inst.
Cape Fear Tech. Inst.
Cleveland Tech. C
Coastal Carolina CC
Fayetteville Tech. Inst.
Pitt CC
Sandhills CC
U of NC at Chapel Hill

Ohio
Cincinnati Tech. C
Cuyahoga CC, Western Campus
Lorain Co. CC
Owens St. Tech. C
Sinclair CC
U of Akron

Oklahoma
Moore-Norman AVTS
South Okla. City JC

Oregon
Mt. Hood CC

Pennsylvania
Central Penn. Business Sch.
Luzerne Co. CC
National School of Health Tech., Philadelphia
Williamsport Area CC

South Carolina
Florence-Darlington Tech. C
Greenville Tech. C
Midlands Tech. C
Piedmont Tech. C
Spartanburg Tech. C
York Tech. C

South Dakota
Southeast AVTS

Texas
Austin CC
Del Mar C
El Centro C
El Paso CC
Houston CC
Kilgore C
Odessa C
St. Philips C
San Jacinto C, Central
South Plains C, Lubbock
Tarrant Co. JC
Tarrant Co. JC, Northeast
Tx. St. Tech. Inst,. Harlingen

Utah
Utah Tech. C, Salt Lake

Washington
Clover Park Vo-Tech Inst.
Seattle Central CC
Spokane CC

Washington, D.C.
Georgetown School of Science and Arts

West Virginia
WV Northern CC

Wisconsin
Fox Valley Tech. Inst.
Gateway Tech. Inst., Kenosha
Madison Area Tech. C
Mid-State Tech. Inst.
Mid-State Tech. Inst., Marshfield
Milwaukee Area Tech. C
Moraine Park Tech. Inst.
North Central Tech. Inst.

Wisconsin (cont.)
Northeast Wisc. Tech. Inst.
Waukesha Co. Tech. Inst.
Western Wisc. Tech. Inst.

Wyoming
Laramie Co. CC

TRAINING CONSIDERATION: X-Ray Technician/Technologist

Recommendation

The American Medical Association's Committee on Allied Health Education and Accreditation lists 770 accredited programs in radiography in 1981. Many of the programs are full two year programs requiring courses in Anatomy, Physiology, Medical Ter minology, English, Physics, Radiography, and extensive clinical experience. Individuals must pass state boards and are then registered as radiologic technologists. Some states (e.g., California) provide a limited license for x-ray technicians, who have received one year of training and are qualified to perform routine x-rays.

Because of the number of institutions providing training in this field, and because of the clinical experience requirements and type of equipment needed to conduct the program, it is recommended that Job Corps procure the training by contracting out slots to the appropriate institutions. Exhibit 3 provides a listing of institutions offering training in this area.

Exhibit 3
Public and Private Institutions Offering X-Ray Training Programs

Alabama
Chattahoochee Valley St. CC
Gadsden St. JC
Jefferson St. JC
Livingston U
Reg. Tech. Inst. U of Ala.
S.D. Bishop St. JC
U of Ala., Birmingham
Wallace St. CC

Arizona
Central Ariz. C, Aravaipa
Pima CC Dist.

Arkansas
U of Central Ark.

California
Associated Tech., L.A.
Bakersfield C
Cabrillo C
Canada C
City C of San Francisco
El Camino C
Foothill-Deanza CC Dist.
Freasno City C
Loma Linda U
Long Beach City C
Merced C
Merritt C
Mt. San Antonio C
Orange Coast C
Pasadena City C
San Joaquin Delta CC
Santa Barbara City C
Santa Rosa JC
Simi Valley Ad, Sch.
West Valley Occ. Ctr.
Western Van, NUYS
Yuba C

Colorado
Mesa C
Pueblo Voc. CC

Connecticut
Mattatuck CC
Middlesex C
Quinnipiac C
South Central CC

Florida
Broward CC
Florida JC at Jacksonville
Hillsborough CC
Miami-Dade CC
Palm Beach JC
Pensacola JC

Georgia
Albany Area Tech. Sch.
Brunswick JC
Valdosta Area Vo-Tech. Sch.
Waycross-Ware Co. Area Vo-Tech. Sch.

Illinois
Belleville Area C
Black Hawk C
Central YMCA CC
C of Lake Co.
Ill. Benedictine C
Ill. Valley CC
Joliet JC
Kankakee CC
Kishwaukee C
Lincoln Land CC
Moraine Valley CC
Oakton CC
Parkland C
Rock Valley C
Roosevelt U
Thornton CC
Triton C

Indiana
Ind. SU, Evansville

Indiana (Cont.)
Ind. U
Ind. Vo-Tech. C, Indianapolis
U of Evansville

Iowa
Scott CC
U of Iowa

Kansas
Allen Co. Comm. JC
Hutchinson Comm. JC

Kentucky
Ky. Wesleyan C
Madisonville St. Vo-Tech. Sch.
Northern Ky. U
Union C

Louisiana
Delgado C
Northeast La. U
Our Lady of Holy Cross C

Maine
Easter Me. Vo-Tech. Inst.

Maryland
Essex CC
Hagerstown JC
Prince George's CC

Massachusetts
Mass. Bay CC
North Shore CC
Northern Essex CC

Michigan
Delta C
Ferris SC
Grand Rapids JC
Jackson CC
Kellogg CC
Lake Mich. C
Lansing CC
Mid Mich. CC
Washtenaw CC

Minnesota
North Hennepin CC

Mississippi
Miss. Delta JC
Miss. Gulf Coast JC, Jackson Co.
Miss. Gulf Coast JC, Perkinston

Missouri
Avila C
Mo. Southern SC
St. Louis CC, Forest Park

Nebraska
Creighton U
Neb. Western C
Southeast CC

Nevada
Truckee Meadows CC

New Hampshire
NH Tech. Inst.

New Jersey
Essex Co.
Middlesex Co. C
Passaic Co. CC

New Mexico
Dona Ana Occ. Branch, NMSU
NMSU

New York
Eugenio Maria de Hostos CC, CUNY
Hudson Valley CC
Long Island U, Brooklyn Ctr.
Monroe CC
NY City CC
Niagara Co. CC
North Country CC
SUNY Downstate Medical Ctr.
Trocaire C

North Carolina
Asheville-Buncombe Tech. Inst.
Carteret Tech. C
Cleveland Tech. C
Fayetteville Tech. Inst.
Forsyth Tech. Inst.
Pitt CC
Rowan Tech. Inst.
Sandhills CC

North Carolina (cont.)
U of NC at Chapel Hill

Ohio
Central Ohio Tech. C
Kettering C of Medical Arts
Lorain Co. CC
Muskingum Area Tech. C
North Central Tech. C
Owens St. Tech. C
Raymond Walters Gen. & Tech. C
Sinclair CC
U of Cincinnati
Wittenberg U

Oklahoma
Bethany Nazarene C
Oscar Rose JC
Amer. Coll. of Health & Business - Okla. City

Oregon
Oregon Inst. of Tech.
Portland CC

Pennsylvania
College Misericordia
CC of Philadelphia
Gwynedd-Mercy C
Mansfield SC
Murrell Dobbins AVJS
Williamsport Area CC

Puerto Rico
C of Health Related Professions

Rhode Island
CC of Rhode Island

South Carolina
Florence-Darlington Tech. C
Greenville Tech. C
Orangeburg-Calhoun Tech. C
Spartanburg Tech. C
York Tech. C

South Dakota
Dakota Wesleyan U

Tennessee
Aquinas JC
Chattanooga St. Tech. CC
Columbia St. CC
Jackson St. CC
Roane St. CC
Shelby St. CC
U of Tenn., Knoxville

Texas
Angelina C
C of the Mainland
El Centro C
Galveston C
Houston CC
Kilgore C
McLennan CC
Odessa C
Paris JC
San Jacinto C, Central
South Plains C, Levelland
South Plains C, Lubbock
St. Philips C
Tarrant Co. JC, Northeast
Tyler JC
U of Tx. Medical Branch

Vermont
U of Vermont

Virginia
Central Va. CC
Northern Va. CC
Paul D. Camp CC
Southwest Va. CC

Washington
Bellevue CC
Tacoma CC
Wenatchee Valley C
Yakima Valley CC

West Virginia
Parkersburg CC

Wisconsin
District One Tech. Inst.
North Central Tech. Inst.
Western Wisc. Tech. Inst.

Wyoming
Casper C
Laramie Co. CC

TRAINING CONSIDERATION: Computer Operator

Methods of Delivery of Training

A. Purchase a Mini-Computer

1. Equipment Needed - Central Processing Unit, Operator Display Terminal, Memory, Printer, Disk Drive, Tape Drive, Remote Terminals, System Software

2. Amount of Equipment Needed - One computer system including at least one of each piece of equipment

3. Approximate Cost of Equipment (based on Burroughs CP-9500) - Central Processing Unit, Memory, Disk Drive - $29,401, Operator Display Terminal - $2,100, Printer (3501pm) - $8,510, Tape Drive - $9,300, System Software - $200 per month, Remote Terminal 1200 Connectors - $2,000, Installation - $300

4. Approximate Maintenance Cost (based on one each of above equipment) - $6,000 per year

5. Some Possible Vendors - IBM System 36, Burroughs CP-9500, Digital

6. Advantages of Method of Delivery

   a. Computer is available for administrative as well as instructional duties

   b. System can be easily updated through software changes

   c. Moderate cost when amortized over time

7. Disadvantages of Method of Delivery

   a. High initial cost

   b. A system this large is not needed for instruction in word processing and data entry. Therefore, unless a number of computer operators are trained the system will be underutilized

B. Rent a Mini-Computer

1. Equipment Needed - Central Processing Unit, Operator Display Terminal, Memory, Printer, Disk Drive, Tape Drive, Remote Terminals, System Software

2. Amount of Equipment Needed - One computer system consisting of at least one of each piece of equipment

3. Approximate Cost of Equipment - Monthly rental (based on Burroughs CP-9500) Central Processing Unit, Memory, Disk Drive - $1,191, Operator Display Terminal - $83, Printer - $455, Tape Drive - $380, System Software - $200, Remote Terminal - $50

4. Approximate Maintenance Cost (based on one each of the above equipment) - $6,000 per year

5. Some Possible Vendors - IBM System 36, Burroughs CP-9500

6. Advantages of Method of Delivery

   a. Lower initial cost

   b. Equipment can be continually updated

7. Disadvantages of Method of Delivery

   a. High monthly cost

   b. Equipment may be underutilized

C. Contract Training to Outside Institution

1. Equipment Needed - none

2. Approximate Cost of Training - $4,500 per student for one year of half-day training

3. Some Possible Providers of Training- Community Colleges, Private Computer-Use School

4. Advantages of Method of Delivery

   a. Lower initial cost with small number of students

   b. Training program is already set up and in place

   c. Training can be provided even if only a few corpsmembers want it

   d. No need for center to obtain or maintain expensive sophisticated computer equipment

5. Disadvantages of Method of Training

   a. High cost if large number of corpsmembers are trained

   b. Center receives no computer equipment for monetary investment

Recommendations

Before investing in computer operator training for Corpsmembers, a careful analysis of employment opportunities should be made. The training is expensive and should take place only if employment appears likely.

Since the equipment needed to train computer operators is costly to purchase and maintain, it is recommended that this training not be conducted at individual centers but rather be either contracted or taught in a regional site. It is further recommended that, if the course is to be taught at a regional site equipment be leased for a period of time before a purchase is made. This procedure will involve a lower initial cost, will allow for upgrading of equipment and software, and will provide a test period before a computer system is purchased.

If equipment is obtained for a regional site, administrative computing for several Job Corps centers could be processed on it via remote terminals.

TRAINING CONSIDERATION: Computer Service Technician

The technical knowledge and level of education in electronics and mathematics required for this occupation screens out a major portion of the Job Corps population. However, due to the recession, the educational level of Corpsmembers at many centers has risen over the past two years and more individuals are entering Job Corps with high school diplomas. Therefore, between 10 percent to 15 percent of the Job Corps population could possibly benefit from training in computer servicing.

Methods of Delivery

A. Contract Slots to Vocational Schools or Community Colleges

One option is to contract slots to existing vocational schools specializing in computer service repair. An advantage of this option is that many of the schools provide placement assistance. They often have a ready-made placement network, and a proven track record of placing graduates. In addition, some of these schools have experience working with disadvantaged populations. They can provide tutorial assistance and special assistance in preparing corpsmembers for entry, if students require it. A disadvantage is cost. Vocational schools charge up to $5,300 per student for an average of 850 hours of training.

A related choice would be to contract slots to community colleges which provide programs leading to a computer technician associate degree. However, many of the programs in community colleges are academic programs which require two semesters of English, Social Science, College Algebra, and Introductory

Physics in addition to courses in electronics and computers. This type of program is more academically rigorous than some of the vocational schools, especially those which work with disadvantaged populations. Additionally, the community college program requires adequate student preparation and ability. However, the students who graduate from these programs are extremely marketable to industry leaders. Graduates of vocational schools are also marketable and do get jobs, but some employers prefer applicants from community colleges. Contracting slots to community colleges would be considerably less expensive than contracting with private vocational schools, but corpsmembers would have to be more academically prepared than those entering vocational schools.

B. Install the Course at a Regional Job Corps Site and Recruit Students from a Wide Geographical Area

Job Corps could purchase the necessary equipment and hire instructors to operate a computer service program at a center which would draw corpsmembers from a wide geographic area. Job Corps would need technical assistance in setting up such a program from a company which already provides training in computer repair.

Start-up, year one costs of operating a computer repair course, including purchase of hardware, software, materials and supplies, lease of hardware, and labor (instructors and job developer/recruiter employed by the company from which Job Corps purchases the equipment) would be approximately $408,390. The cost is broken out as follows:

Instruction Disks and Manuals	$89,291
Equipment (purchase) and One Year Maintenance Fee	90,582
Equipment (large mini-computer) lease-per year	16,800
Hand Tools	13,160
Miscellaneous	25,780
Labor (contractor package of two instructors and a job developer/recruiter)	173,317
	$408,930

These costs are based on an estimate of 60 students and a course which lasts eight months. During the first two years, the company providing the personnel would operate on a contract basis regarding job placements. They would provide refunds for specified percentages of corpsmembers not placed on jobs. If Job Corps chose not to continue this contract in year two, labor costs would be reduced. Courseware includes student manuals similar to textbooks, reference manuals and instructor manuals. Most of these items need to be replaced yearly because students keep them for reference. Equipment costs include seven off-line instructional computer terminals, plus related hardware such as, two console terminals, two card readers, two magnetic tape transports, a drum line printer, a band line printer, two disk drives, two storage module drives, and a series of troubleshooting modules. The equipment cost also includes a $7,500 yearly maintenance fee. Equipment to be leased on a yearly basis includes a large scale mini-computer which totals $16,800 per year.

Second year costs for such a program are estimated to be $301,121:

Labor	$187,182
Student Manuals	65,639
Large Scale Mini-Computer (lease)	16,800
Miscellaneous	22,000
Maintenance	7,500
Material Replacement	2,000
	$301,121

The cost for years one and two with the contracted company's personnel and placement contract is estimated at $710,051. Estimated number of participants served is 180. Average cost per corpsmember year for years one and two is estimated at $3,945. This cost does not include cost for training facility.

The cost estimate for the third and subsequent years, with Job Corps staff fully operating the program is as follows:

Labor (estimate)	70,000
Manuals	65,639
Large Scale Mini-Computer (lease)	16,800
Miscellaneous	10,000
Maintenance	7,500
Materials Replacement	2,000
	$171,939 per year

With an average of 90 students estimated to complete in a year's time the cost per corpsmember year is $1,910. However, some students would take longer than eight months to complete the

program. In addition, the estimated cost does not include expense for a training facility.

Recommendation

Because of the high capital equipment costs, and because the education and training requirements for this program are above that of the average corpsmember, it is recommended that centers initially contract this training to vocational schools and community colleges. Centers with students who have an aptitude and interest in this area are encouraged to provide slots for this program. The program results should be examined after a period of time. The following types of questions should be answered: is retention satisfactory; are job placement and job retention satisfactory; is the number of students interested in and able to enter the program increasing; what differences, if any, exist in outcomes according to geographic location and type of provider? At that point, Job Corps may want to consider establishing one or two regional sites which would accept Corpsmembers from various geographic locations.

Exhibit 4
Private and Public Institutions Offering
Computer Maintenance

Alabama
Bessemer St. Tech. C
CC of the Air Force
George C. Wallace St. CC
Gadsden St. JC
Northeast Ala. St. JC
S.D. Bishop St. JC

Arizona
Arizona Tech., Phoenix
Pima CC Dist.
Pinal Co. CC Dist.
Scottsdale CC

Arkansas
Southern Ark. U

California
Allan Hancock C
American River C
Bakersfield C
Barstow C
Cerritos C
Chabot C
C of Marin
Compton CC
Condie C
Control Data Inst., Anaheim
Control Data Inst., Los Angeles
Control Data Inst., San Francisco
Cuesta CC
DeAnza C
Diablo Valley C
East Los Angeles C
Edison Tech. Inst.
Fullerton C
Grossmont CC
Hartnell C
Humphreys C
Kennedy-San Fernando Comm. Ad. Sch.
Loma Linda U
Los Angeles Pierce C
Los Angeles Trade-Tech. C
Merritt C
Monterey Peninsula C
Mt. San Antonio C
National Tech. Schs.
Northrop U
Ohlone C
Palomar CC
Saddleback C
Sierra C
West Los Angeles C
West Valley Jt. CC Dist.
Yuba C

Colorado
Arapahoe CC
Emily Griffith
Opportunity Sch.
Trinidad St. JC

Connecticut
Conn. Sch. of Electronics
Henry Abbott Reg. Vo-Tech. Sch.
Porter & Chester Inst.
S.I. Ward Tech. C, U of Hartford
Technical Careers Inst., Windsor and West Haven

Florida
Brevard CC
Broward CC
Central Fla. CC
Fla. Int'l U
Indian River CC
Jones C
Miami Tech. Inst.
North Fla. JC
St. Petersburg JC
Tampa Tech. Inst.
Washington-Holmes Area Vo-Tech Ctr.

Georgia

Abraham Baldwin Ag. C
Control Data Inst.
Dalton JC
Marietta-Cobb AVJS

Hawaii
Electronics Inst.

Illinois
Central YMCA CC
Concordia C

Illinois (Cont.)
Control Data Inst., Bensenville and Chicago
DeVry Inst. of Tech., Chicago
Joliet JC
Ill Tech. C, Chicago
Moraine Valley CC
Olivet Nazarene C

Indiana
Ind. U-Purdue U at Indianapolis
Ind. Vo-Tech. C Indiananpolis
Purdue U, W. Lafayette
Southeastern Ind. Voc. Sch.
Vincennes U

Iowa
Des Moines Tech. HS
Hamilton Tech., Davenport
Indian Hills CC
Mount Mervy C
Scott CC
United Electronics Inst.

Kansas
Haskell Indian JC
Labette Co. HS
U of Kan.
Wichita Automotive and Electronics Inst.

Kentucky
Easter Ky U
Murray SU
Paducah CC

Maine
Northern Main Vo-Tech. Inst.

Maryland
Arundel Inst. of Tech.
Control Data Inst., Baltimore
Montgomery C, Rockville
Montgomery C, Germantown

Massachusetts
Assoc. Tech. Inst., Waburn
Boston U
Bunker Hill CC
Cont. Data Inst., Burlington
Franklin Inst. of Boston
Lincoln C
Massasoit CC
Northeast Inst. of Industrial Tech.
Northern Essex CC
U of Lowell
Wentworth Inst.

Michigan
Control Data Inst., Southfield
Eastern Mich. U
Lake Superior SC
Lansing CC
Oakland CC
RETS Electronic Schs., Detroit
RETS Electronic Schs., Wyoming
Washtenaw CC
Wayne Co. CC

Minnesota
Brown Inst.
Concordia C
Control Data Inst.
Dunwoody Industrial Inst.
Mankato AVTI
915 AVTI
Northwestern Electronics Inst.
St. Paul Tech. Voc. Inst.
U of Minn. Tech. C, Crookston

Mississippi
Jackson SU
Mary Holmes C
Miss. Valley SU

Missouri
Basic Inst. of Tech, St. Louis
Control Data Inst., St. Louis
Ranken Tech Inst.

Nebraska
U of Nebraska

New Hampshire
Hesser C
NH Vo-Tech. C, Nashua
U of NH

New Jersey
Bergen Co. Vo-Tech. HS
Brick Comp. Science Inst.

New Jersey (cont.)
Brookdale CC
Hudson Co. CC Commission
Jersey City SC
Lincoln Tech. Inst. Pennsauken
Metropolitan Tech. Inst.
Plaza Sch.
Sussex Co. Vo-Tech. Sch
Trenton Tech. Inst.
Union Tech. Inst. Eatontown

New Mexico
Highlands HS
NM Highlands U

New York
Advanced Trng. Ctr., Kenmore Branch
Advanced Trng. Ctr., Tonawanda
Albert Merrill Sch., New York
Belmore-Merrick Central HS Dist.
Cayuga Co. CC
Cont. Data Inst., Garden City & N.Y.
C of Staten Island, CUNY, St. George
Edison Tech. & Occ. Ed. Ctr.
NYU Inst. of Tech.
Northern Westchester Tech. Ctr.
PSI Inst.
Queens C, CUNY
Queensborough CC
SCS Business and Tech Inst., N.Y.
SUNY C, Oswego
Suburban Tech. Sch. Hempstead

North Carolina
Elizabeth City SU
Pitt CC
Wake Tech. C

North Dakota
ND St. Sch. of Science

Ohio
Centrail Ohio Tech. C
Columbus Tech. Inst.
Control Data Inst., Independence
Electronic Trng. Ctr., Inc.
Kent SU
Miami U, Middletown
Southern St. CC
United Electronics Inst.
U of Cincinnati

Oklahoma
Douglas HS
Eastern Okla. SC

Oregon
Chemeketa CC
Mt. Hood CC
Oregon Inst. of Tech.

Pennsylvania
Bucks Co. CC
CC of Allegheny Co., Allegheny
East Stroudsburg SC
Electronic Insts., Harrisburg & Pittsburg
Lincoln Tech. Inst., Allentown
Lyons Tech. Inst. Phila.
RETS Electronics, Broomall
Spring Garden C
Steel Valley AVJS
Williamsport Area CC

Rhode Island
CC of Rhode Island

South Carolina
Spartanburg Tech. C

South Dakota
National C

Tennessee
Memphis SU
Nashville St. Tech. Inst.
Roane St. CC
St. Tech. Inst., Memphis
Tenn. Inst. of Electronics

Texas
Brazosport C
Central Tx. C
Control Data Inst., Dallas and Houston
DeVry Inst. of Tech.
El Centro C
Lee C
San Jacinto C, Central
San Jacinto C, North
Tyler JC
U of Houston, Central

Virginia
Elect. Computer Prog. Inst. of Tidewater, Norfolk

Virginia(cont.)
Paul D. Camp CC
Control. Data Inst., Arlington

Washington
Clark C
North Seattle CC
Seattle Central CC
Skagit Valley C
Wash. Tech. Inst.

Wisconsin
Control Data Inst., Milwaukee
Gateway Tech. Inst., Kehosha
Gateway Tech. Inst., Racine
Milwaukee Area Tech. C
Western Wisc. Tech. Inst.

Wyoming
Western Wyoming CC

V. Optional Approaches for Determining Job Corps Training Occupations

In the course of this study, it became clear, particularly in the absence of regional or state occupational employment data, (a proxy for demand) that attempting to lay out an explicit geographical distribution of future Job Corps occupational training would be unproductive. Little more could be done than was already done in Documentation Report No. 1 to identify the relative job placement success of existing occupations in the regions. The lack of current data with which to project even a speculative cost-benefit relationship of the current training mix with a "better" one, contributed to the decision to substitute a discussion of alternative administrative approaches through which operational decisions on the occupations of Job Corps vocational training might be made.

Three alternative administrative approaches are identified and briefly described. These management options pertain only to deciding on occupations for vocational training; not other Job Corps operations.

Approach A. Nationally Guided Decision Making with Center Participation

1. National office annually establishes lists of core occupations, and other occupations acceptable for Job Corps training. These are based on the most recent "occupational performance" analysis, and the report advises Centers of proposed distribution of National Contractor training.

2. Centers (including CCCs) assess existing training capability, placement potential in labor markets to which they perceive they respond, (see above "problems") and training potential of the corpsmembers they expect to enroll. They then submit proposals describing a complete occupational training agenda for the forthcoming year. This proposal would include concurrence or suggested alternatives for proposed National Contractor training.

Centers would be permitted the option of proposing a small fraction (e.g. 1/10 or 1/8) of training opportunities in new, untried occupations as "Center Initative" occupations. Proposals for these occupations would be accompanied by explanations of the reasons for installing the program.

Centers would be required to submit rigorous justification for continuing (or initiating at that Center) training in occupations found by National "occupational performance" analysis to be a low performer. Such justification would include analyses of labor market placement potential, corpsmember needs and training costs, and probability of cost effective training.

If a low performing occupation is a "step-off" to an adequately performing occupation designated "acceptable for Job Corps training," the Centers would have three alternatives:

a. If "step-off" is conducted as a separate program with the "step-off" itself being the occupational training objective, the Center action would be to eliminate the program offering or rigorously justify its retention.

b. If "step-off" occupation is part of a curriculum, the main objective of which is a "higher" occupation, but the "step-off" part of the curriculum is not essential to achievement of the higher occupational training objective, Center action would be to submit a revised curriculum deleting the "step-off" component, or rigorously justify its retention, and submit plans for improving "step-off" performance.

c. If a "step-off" occupation is part of a curriculum the main objective of which is a "higher" occupation, and the "step-off" component is an integral and necessary part of the curriculum required to achieve the higher occupational training objective, Center action would be to retain the "step-off" component and so note in its submission, and to include plans for improving corpsmember assimilation of training thus reducing the number of "step-off" terminees and increasing the pursuit of training toward more productive occupations.

If a low performing occupation is deemed essential to the cost-effective operation of the Center, Centers would be required to:

a. Establish training using the VST model, thereby involving the minimum possible number of corpsmembers, and strengthening the training content of the program, or

b. Limit the program to one class of minimal size.

3. National office (or regional offices, as appropriate) reviews proposed vocational training agendas, and justifications for deviations from National guidelines, approves them, and establishes and maintains the Job Corps vocational offerings catalogue each year.

4. National office retains the option of establishing specialty training centers on a national, regional, or other sub-national level.

5. Center contracts are modified to provide for changed vocational programs as necessary.

Approach B. Center Direction

1. National office annually issues a list of prescribed occupations of very poor performance based on the most recent "occupational performance" analysis.

2. Centers (including CCCs) propose occupational training program changes as they perceive the need, or to meet regional office contract RFPs and national prescriptions. Rigorous justification of retention of occupations of very poor performance (including "step-offs") would be required as in Approach A, above.

3. National contractor training be conducted on Center at Centers' option, within the overall contracted capacity of each National Contractor, perhaps as supplemented by Center training funds.

4. National office approval of training in new occupations required, as at present.

5. National office retains the option of establishing specialty training centers on a national, regional, or other sub-national level.

Approach C. State Job Corps Centers

1. Redirect enrollee Center assignment policy so that corpsmembers are enrolled in Center(s) in their state of residence -- or in a Center designated to serve the state's Job Corps enrollees. (This approach does not require Job Corps Center funding alternatives -- such as formula grants to states for operating Job Corps Centers -- or redeploying Center enrollment capacity among the states). Therefore, these subjects are not addressed.

2. Place responsibility for determining each Center's occupational training offerings on the appropriate JTPA State Job Training Coordinating Council. (Unless Job Corps Centers and enrollment capacity are redeployed to locate at least one Center in each state, some Centers would have training determination inputs for more than one state.)

3. National office (and/or regional offices) provides technical assistance and periodically issues advisory materials identifying relative cost-effectiveness of Job Corps training in each occupation.

4. Civilian Conservation Centers (CCCs) continue as at present, national agency administered Centers.

5. National contractor training mode available to the State Centers at no cost to states (within each National Contractors' contracted capacity) or on a buy-in basis if states are funded by formula grant.

6. National office retains the option of establishing specialty training centers on a national, regional, or other sub-national level, perhaps on a buy-in basis.